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09/751,944	12/29/2000	Kent L. Leung	CISCP137/2014	7952

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EXAMINER	
HO, THOMAS M	

ART UNIT	PAPER NUMBER
2134	

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/751,944	LEUNG ET AL.	
	Examiner	Art Unit	
	Thomas M Ho	2134	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *29 December 2000*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-36 are pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-18, 34-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Malkin et al.

In reference to claim 1:

Malkin et al. discloses an a Foreign agent supporting Mobile IP, a method of sending a registration request packet on behalf of a node that supports PPP but does not support Mobile IP, comprising:

- Accepting a call from the node, where the node calls the RAS (Column 1, line 64 – Column 2, line 1) (Column 2, lines 25-30)

- Receiving authentication information associated with a PPP authentication protocol from the node, the authentication information enabling a PPP node to be authenticated. (Figure 2a)
- Obtaining a PPP node profile associated with the authentication information, the PPP node profile including registration information associated with the node that enables proxy registration to be performed by the Foreign Agent on behalf of the node, the registration information associated with the node identifying a Home Agent associated with the node, where the node profile is garnered from the TMS to determine if the Foreign Node has an account. (Figure 2a, Item 212) Registration information is then later associated with the node for proxy registration(Column 5, lines 1-20) , where the proxy acts to negotiation control protocols with the foreign agent. (Column 5, lines 40-45)
- Composing a registration request packet including the registration information associated with the node. (Figure 2c, Item 232)
- Sending the registration request packet to the Home Agent on behalf of the node. (Figure 2c, Item 232)

In reference to claim 2:

Malkin et al. (Column 3, lines 40-45) & (Column 4, lines 15-20) discloses the method as recited in claim 1, wherein the authentication information includes a user ID submitted by the node during PPP authentication.

In reference to claim 3:

Malkin et al. (Column 4, lines 15-20) discloses the method as recited in claim 1, wherein the authentication information includes a password submitted by the node during PPP authentication.

In reference to claim 4:

Malkin et al. (Column 3, lines 30-45) discloses the method as recited in claim 1, wherein the PPP authentication is PAP or CHAP.

In reference to claim 5:

Malkin et al. (Column 4, line 58 – Column 5, line 20) discloses the method as recited in claim 1, wherein the registration request packet includes an extension including the authentication information.

In reference to claim 6:

Malkin et al. discloses the method as recited in claim 1, wherein obtaining a PPP node profile comprises:

- Composing a request packet for the node, the request packet including the authentication information. (Column 5, lines 1-5)
- Sending the request packet to a server (Column 5, lines 20-27), the server being adapted for performing authentication and for storing a profile for one or more nodes supporting PPP. (Column 2, lines 40-48)

- Receiving a reply packet from the server, the reply packet including at least a portion of a profile for the node. (Column 5, lines 28-35)

In reference to claim 7:

Malkin et al. (Column 4, lines 23-28) discloses the method as recited in claim 6, wherein the server is a TACACS+ or a RADIUS server.

In reference to claim 8:

Malkin et al. (Figure 1) discloses the method as recited in claim 6, wherein the server is coupled to the Foreign Agent, where the server is the AS which is coupled to the Foreign Agent, the service provider network.

In reference to claim 9:

Malkin et al. (Figure 1) discloses the method as recited in claim 6, wherein the server is coupled to a Home Agent associated with the node, where the server, the AS, is coupled with the Home Network, which is coupled to the Remote note.

In reference to claim 10:

Malkin et al. (Column 3, lines 55-57) discloses the method as recited in claim 1, the information associated with the node further identifying a key to be shared between the Home Agent and the Foreign Agent, where the key to be shared is used to look up the profile in the TMS database in order to complete authentication.

In reference to claim 11:

Malkin et al. (Column 4, lines 45-60) discloses the method as recited in claim 1, the information associated with the node further identifying a service selection, the service selection indicating that PPP service is normal PPP service, mobile IP service, or proxy module, where the service selection is identified by the permitted protocols.

In reference to claim 12:

Malkin et al. discloses the method as recited in claim 11, wherein composing the registration request packet is performed in response to obtaining the PPP node profile in which the service selection indicates that PPP service is proxy module IP service, where the node profile is first obtained (Column 4, lines 40-60) and then once user authentication is successful, the registration request packet is composed. (Column 4, lines 60-67)

In reference to claim 13:

Malkin et al. (Column 5, lines 20-28) discloses the method as recited claim 1, the information associated with the node further indicating a registration lifetime for the node, where the registration lifetime is the lifetime the registration request has to be verified.

In reference to claim 14:

Malkin et al. (Column 5, lines 5) discloses the method as recited in claim 1, the information associated with the node further identifying a Home Address for the node.

In reference to claim 15:

Malkin et al. discloses the method as recited in claim 14, further comprising:

Completing IPCP to establish and configure IP between the node and the Foreign Agent using the Home Address, where the IP is configured between the node and foreign agent through IP over PPP which is understood to be IPCP. (Column 4, lines 50-65) & (Column 5, lines 35-55)

In reference to claim 16:

Malkin et al. (Column 4, lines 50-65) discloses the method as recited in claim 1, further comprising:

Receiving a registration reply from the Home Agent, the registration reply identifying a Home Address for the node, where the reply from the home agent includes a profile containing the remote node IPCP address.

Claim 17 is rejected for the same reasons as claim 15.

Claims 34, 35, 36 are rejected for the same reasons as claim 1.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 19-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malkin et al. and "Mobile IP: Design Principles and practices".

In reference to claim 18:

Malkin et al. (Column 5, lines 15-20) fails to explicitly discloses the method as recited in claim 1, further comprising:

Receiving a registration reply from the Home Agent, the registration reply including a proxy Mobile Node registration sequence number extension indicating a sequence number for a registration being performed on behalf of the node by the Foreign Agent, the sequence number indicating an order of the registration within a sequence of one or more registrations performed by one or more Foreign Agents on behalf of the node.

Malkin et al. however discloses receiving a registration reply from a Home Agent with one or more registrations performed on behalf of the node. (Column 5, lines 20-50)

Malkin et al. also discloses that the intended use of the invention is to provide open communication between the home network and the remote node using the Mobile IP protocol. (Column 5, lines 40-46)

"Mobile IP: Design Principles and practices" (Page 50, Section 3.5.2) reveals that one aspect of the Mobile IP protocol uses Sequence numbers to indicate a sequence number indicating the order of the registration of within a sequence of one or more registrations that starts with the number zero.

It would have been obvious to one of ordinary skill in the art at the time of invention to use aspects of the Mobile IP protocol in Malkin et al. because Malkin et al. discloses the usage of the Mobile IP protocol, though for brevity, fails to explicitly disclose that particular detail of the protocol.

In reference to claim 19:

"Mobile IP: Design Principles and practices" (Page 78, Section 4.8.1) discloses the method as recited in claim 18, further comprising:

Updating a registration table to associate the sequence number with the node, where the sequence number is a part of the Mobility Agent Advertisement Extension including the care of addresses. (page 45, Figure 3.3)

In reference to claim 20:

"Mobile IP: Design Principles and practices" (Page 50, Section 3.5.2) discloses the method as recited in claim 1, further comprising:

Receiving a registration reply from the Home Agent, the registration reply including a proxy Mobile Node extension indicating whether a registration being performed on

behalf of the node is a re-registration by the foreign agent or an initial registration by the Foreign Agent, where registration is an initial registration if the sequence number is zero, and is a re-registration if the sequence number is not zero.

In reference to claim 21:

"Mobile IP: Design Principles and practices" (Page 50, Section 3.5.2) & (Page 78, Section 4.8.1) discloses the method as recited in claim 20 further comprising:

Updating a registration table to indicate whether the registration being performed on behalf of the node is a re-registration by the Foreign Agent or an initial registration by the Foreign Agent, where the sequence number used can indicate if the registration is initial or a re-registration, and is updated in the registration table with the rest of the information of the Mobility Agent Advertisement Extension. (page 45, Figure 3.3)

Claim 22 is rejected for the same reasons as claim 18.

Claim 23 is rejected for the same reasons as claim 19.

Claim 24 is rejected for the same reasons used in claim 18.

Claim 25 is rejected for the same reasons as claim 19.

In reference to claim 26:

Malkin et al. discloses in a Home Agent supporting Mobile IP, a method of processing a registration request packet composed on behalf of a node that supports the Point-to-Point protocol, comprising:

- Determining from the registration indicator whether to accept registration of the node with the Home Agent, where one of the registration indicators is whether the registration request was replied to within a predetermined amount of time, and is accepted if it is. (Column 5, lines 20-27)
- Composing a registration reply packet indicating whether registration of the node with the Home Agent is accepted (Column 5, lines 28-35)
- Sending the registration reply packet to the Foreign Agent, where the sent packet is received by the Foreign Agent (Column 5, lines 28-35)

Malkin et al. fails to explicitly disclose

- Receiving the registration request packet from a Foreign agent that is performing proxy registration on behalf of the node, the registration request packet including a registration indicator indicating whether registration being performed by the Foreign agent on behalf of the node is a re-registration by the Foreign Agent or an initial registration by the Foreign Agent

"Mobile IP: Design Principles and practices" (Page 50, Section 3.5.2) discloses

- Receiving the registration request packet from a Foreign agent that is performing proxy registration on behalf of the node, the registration request packet including a registration indicator indicating whether registration being performed by the Foreign agent on behalf of the node is a re-registration by the Foreign Agent or an initial registration by the Foreign Agent, where registration is an initial

registration if the sequence number is zero, and is a re-registration if the sequence number is not zero.

Malkin et al. also discloses that the intended use of the invention is to provide open communication between the home network and the remote node using the Mobile IP protocol. (Column 5, lines 40-46)

It would have been obvious to one of ordinary skill in the art at the time of invention to use aspects of the Mobile IP protocol in Malkin et al. because Malkin et al. discloses the usage of the Mobile IP protocol, though for brevity, fails to explicitly disclose that particular detail of the protocol.

Claim 27 is rejected for the same rationale as claim 21.

In reference to claim 28:

Malkin et al. discloses in a Home Agent supporting Mobile IP, a method of processing Registration request packet composed on behalf of a node that supports the Point-to-Point Protocol, comprising:

- Composing a registration reply packet indicating whether registration of the node with the Home Agent is accepted. (Column 5, lines 25-35)
- Sending the registration reply packet to the Foreign Agent. (Column 5, lines 25-35)

"Mobile IP: Design Principles and practices" (Page 50, Section 3.5.2) discloses

- Receiving the registration request packet from a Foreign Agent that is performing proxy registration on behalf of the node, the registration request packet including a sequence number indicating an order within the sequence of one or more registrations performed by one or more Foreign Agents on behalf of the node, where the packet includes the sequence number among other pieces of data. (Figure 3.3, Page 45)
- Determining from the sequence number whether to accept registration of the node with the Home Agent, where a registration is not accepted if no rebooting of the foreign agent occurs, for example in a rollover of the foreign agent because the registration is still the same registration. (Page 50, Section 3.5.2)

Malkin et al. also discloses that the intended use of the invention is to provide open communication between the home network and the remote node using the Mobile IP protocol. (Column 5, lines 40-46)

It would have been obvious to one of ordinary skill in the art at the time of invention to use aspects of the Mobile IP protocol in Malkin et al. because Malkin et al. discloses the usage of the Mobile IP protocol, though for brevity, fails to explicitly disclose that particular detail of the protocol.

Claim 29 is rejected for the same reasons as claim 18.

In reference to claim 30:

"Mobile IP: Design Principles and practices" (Page 50, Section 3.5.2) discloses the method as recited in claim 28, further comprising:

- Determining from the sequence number whether the registration request packet corresponds to an initial registration of the node with the Home Agent, where the registration is initial is the sequence number is zero.
- When the sequence number indicates that the registration request packet corresponds to the initial registration of the node with the Home Agent, indicating in the registration reply that registration of the node with the Home Agent is accepted, where if the registration corresponds to the initial registration of the node the mobile node is re-registered.

In reference to claim 31:

"Mobile IP: Design Principles and practices" (Page 50, Section 3.5.2) & (Page 78, Section 4.8.1) discloses the method as recited in claim 30, further comprising wherein when the sequence number indicates that the registration request packet corresponds to the initial registration of the node with the Home Agent, incrementing the sequence number to create an updated sequence number, creating an entry in a mobility binding table associating the updated sequence number with the node, and providing the updated sequence number in the registration reply, where sequence number is incremented by one each subsequent time.

In reference to claims 32 and 33:

Both claims 32 and 33 specifically recite claim limitations that disclose a comparison of either a second sequence number to be compared or a second care of address to be compared with one that has been previously registered with the registration table or mobility binding table(also effectively a registration table)

"Mobile IP: Design Principles and practices" fails to explicitly disclose the

- When the data values(sequence number or care of address) to be compared are not equal to the ones found in the registration table, the registration reply packet is denied.
- When the data values(sequence number or care of address) to be compared are equal to the ones found in the registration table, the registration reply packet is accepted.

"Mobile IP: Design Principles and practices" (Page 78, Section 4.8.1) discloses that with regards to the mobility binding list, that the home agent is required to create or modify an entry regarding a Mobile Node's care of address and registration lifetime, such as that indicated in the format of the packet in (figure 3.3, page 45)

The Examiner takes official notice that it was obvious at the time of invention to deny an authentication or disallow full access, if one or more characteristics of a verification process were found to be unmatching.

Examples are Malkin et al. (Column 4, lines 15-20) and

"Mobile IP: Design Principles and practices" Page 79, Item 3 further indicates that during the validity checking process, if no foreign home extension is found, the home agent is required in the reply to reject the registration.

"Mobile IP: Design Principles and practices" Page 63, Item 133 also indicates that a registration by the foreign agent may be denied if there is a mismatch in the identification.
This method is also common to password and authentication processes.

It would have been obvious to one of ordinary skill in the art at the time of invention to deny the registration reply packet if any information characteristics of a registration between a Home agent and a mobile node, including a sequence number and care of address, were found to be unmatching, in order to prevent mismatching registrations or registrations without the proper parameters from being allowed and consequently avoiding errors.

Conclusion

6. The following art not relied upon is made of record.

- US patent 6571289 discloses a method for negotiating access to a private network for a mobile node that has migrated beyond the private network.
- US patent 6452920 discloses a method for tunneling between a home network and a foreign network.

- US patent 6393482 discloses a network that shows interactions between a mobile node, a foreign agent, and a home agent.
- US patent 6577643 discloses network interactions between a foreign network and home network that uses PPP to communication within the network and with the mobile node.
- US patent 6496491 discloses a mobile point to point protocol.
- US patent 6707809 discloses a method for forwarding data in a network where a PPP connection is established between a mobile node and the foreign agent.

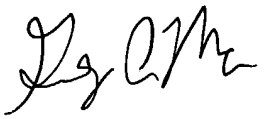
7. Any inquiry concerning this communication from the examiner should be directed to Thomas M Ho whose telephone number is (703)305-8029. The examiner can normally be reached on M-F from 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory A. Morse can be reached on (703)308-4789. The fax phone numbers for the organization where this application or proceeding is assigned are (703)746-7239 for regular communications and (703)746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)306-5484.

TMH

August 20, 2004



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